

## CLAIMS

1. A method for cellular communication comprising:

transmitting code division multiple access (CDMA) signals of one user during a time slot allotted to said user.

2. A method according to claim 1 and also comprising spreading the data of said user to be transmitted during said time slot with more than one spreading code.
3. A method according to claim 1 wherein there are  $N$  spreading codes and wherein said transmitting comprises transmitting using a dynamic range of  $\{-N, N\}$ .
4. A method according to claim 1 and also comprising having a predetermined spreading factor and spreading the data of said user to be transmitted during said time slot with a spreading factor less than said predetermined spreading factor.
5. A cellular communication time period having multiple timeslots wherein each timeslot is allotted to one of a multiplicity of users and wherein information to be transmitted during said timeslot is encoded using codes assigned to at least two of said multiplicity of users.
6. A time period according to claim 5 and also comprising a predetermined spreading factor wherein said information is spread with a spreading factor less than said predetermined spreading factor.

7. A transmitter comprising:

a demultiplexer adapted to divide an input signal into a plurality  $N$  of sets of data;

a multiplicity N of spreaders each adapted to spread an associated one of said plurality of sets using an associated one of N spreading codes to produce N modulated segments; and

5 a summer adapted to sum said N modulated segments in a time aligned manner.

8. A transmitter according to claim 7 and also comprising a predetermined spreading factor defining the length of said spreading codes and a spreading factor changer for reducing said spreading factor to less than said predetermined spreading factor.

10 9. A transmitter comprising:

a demultiplexer adapted to divide an input signal into a plurality N of sets of data;

15 a multiplicity N of spreaders each adapted to spread an associated one of said plurality of sets using an associated one of N spreading codes to produce N modulated segments;

a summer adapted to sum said N modulated segments in a time aligned manner; and

an upconverter adapted to convert the output of said summer into radio frequency signals.

20 10. A receiver comprising:

a multiplicity N of bit reconstructors each adapted to use one of N despreading codes to produce N demodulated segments from a received signal; and

